



Lunar Lander Fuel Cell (LLFC) ACO

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Technology Goal/Objective: Fuel Cell Technology Transfer and H₂/O₂ Fuel Cell Stack Testing

Blue Origin will collaborate with GRC and JSC for the advancement of fuel cell system technology for Blue Moon lunar landers, advancing fuel cell stack Technology Readiness Level and integration towards actual flight hardware. This collaboration leverages NASA capabilities and hardware to rapidly develop a preliminary flight capable stack for ground testing, and supports mission and architecture studies. This effort focuses on primary fuel cell power system specifications and operational requirements for Lunar Landers mission/service. Blue Origin is providing the fuel cell stack hardware to be tested.

Technical Approach

- NASA provides Blue Origin H₂/O₂ fuel cell technology report
- NASA provides technical assessments of potential fuel cell system designs
- GRC conducts envelope and performance testing
- JSC conducts shock & vibration testing of non-operational stacks

Task Status

Design reviews and technology transfer continue but all testing activities slipped due to COVID-19. The shock & vibration testing are currently scheduled for October 2020 with the envelope and performance testing slated for February 2021.

